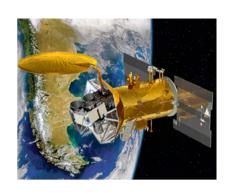


SPURS-UK



- Contribute to international programme by:
 - determining horizontal advection of S using a single point mooring
 - measuring the near-surface S using novel sensors
 - synthesis of in situ, glider (to be deployed on French STRASSE cruise) and satellite data with international collaborators (US, French, Spanish, Irish, etc...)
- Proposal submitted 1st Dec 2010
 - Srokosz, Gommenginger, Cunningham, Bryden, Banks, Pascal



Mooring

- aim: to determine horizontal advection of S using a single point mooring (Bryden 1976, 1980)
- also estimate w
- use combination of CTD, current meter and ADCP (75kHz) measurements
- 4 day temporal res.

SPURS Proposal Mooring v07 - page 1

depth (incl. stretch)	component	rope # & Length
55 m	Trimsyn	15m 1/2" Polyprop
71 m	30" McLa. SS	1m chain-13
73 m	Nortek in frame (estin	
75 m	SBE37 SMP	70m 4mm jacketed
99 m	SBE37 SMP	
145 m	41" McLa. SS	1m chain-13
148 m	Nortek in frame (estin	
150 m	SBE37 SMP	100m 3/16" ins
199 m	SBE37 SNP	
250 m	Nortek in frame (estin	nate)
251 m	SBE37 SMP	3/16" ins
301 m	SBE37 SMP	I
351 m	Nortek in frame (estin	Ť
353 m	SBE37 SMP	95m 3/16" ins
402 m	SBE37 SMP	0

SPURS Proposal Mooring v07 - page 2

depth (incl. stretch)	component	rope # & Length
448 m	Nortek in frame (est	imate)
451 m	SBE37 SMP	3/16" ins
470 m	ADCP+45"Sphere	1
		1m chain-13 X Swivel -SS
		1515m 3/16" ins
497 m	SBE37 SMP	
598 m	SBE37 SMP	
798 m	SBE37 SMP	
999 m	SBE37 SMP	1
1200 m	SBE37 SMP	
1596 m	SBE37 SMP	
1993 m	11x17" glass	0,
		0
		700
		→

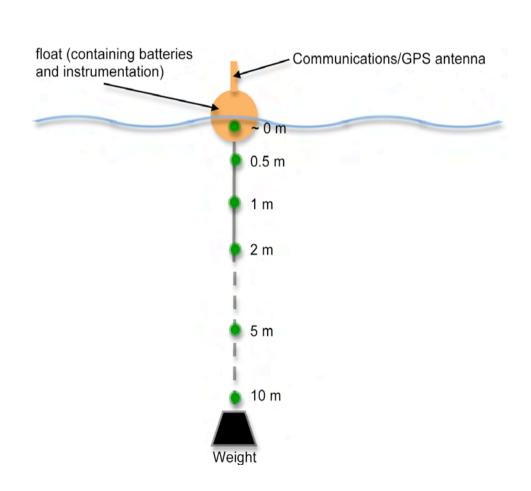
Surface drifters

Novel "lab-on-a-chip" CT sensors



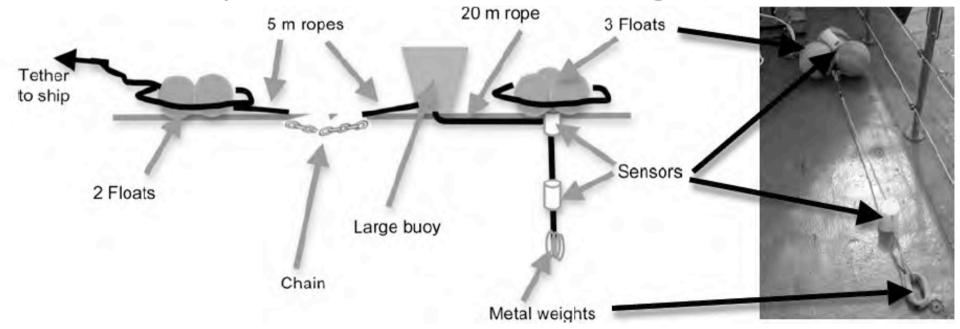
- 3 drifters
 - GPS + Iridium
- Test tethered
 - Autumn 2011
- Deploy drifting
 - Summer 2012





Earlier version of drifter

- Tested on 26°N cruise in tethered mode Jan / Feb 2010
- Some problems with "lab-on-a-chip" sensors
- New improved version now being lab tested



Satellites: SMOS (+Aquarius)

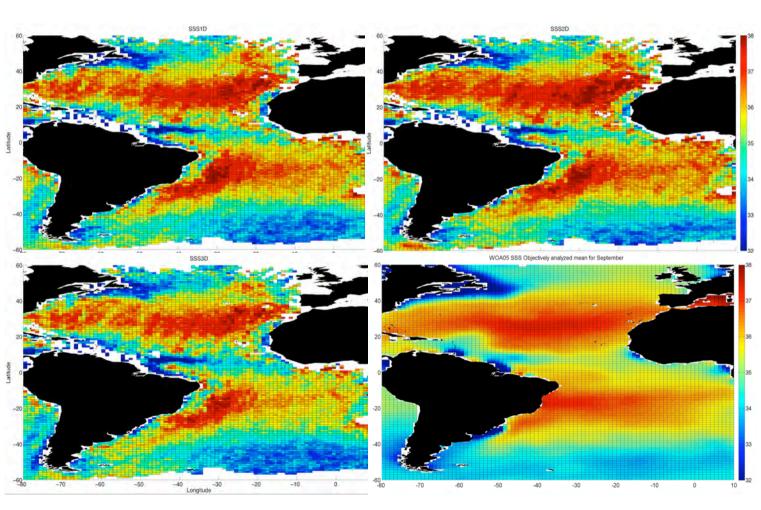
To look at larger-scale SSS variations



SMOS data

SSS from 3 models – descending passes only – plus WOA climatology

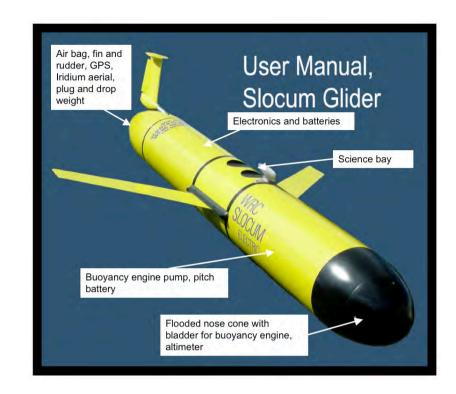
Sept. 2010 1° x 1°

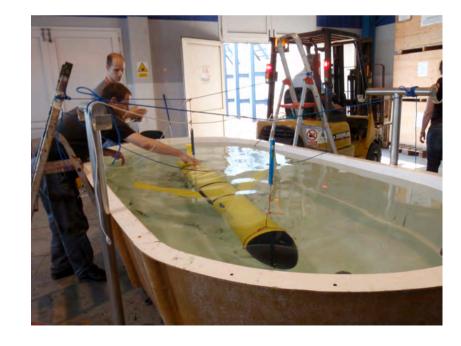




Glider

- To be deployed during STRASSE cruise summer 2012
- Repeat "box" survey around mooring to look at spatial variability and representativeness of mooring measurements



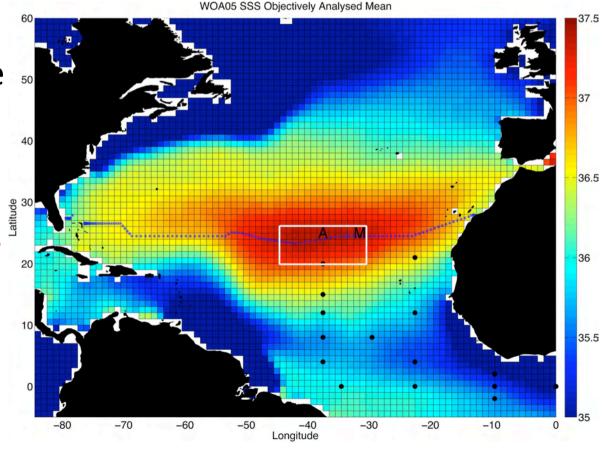




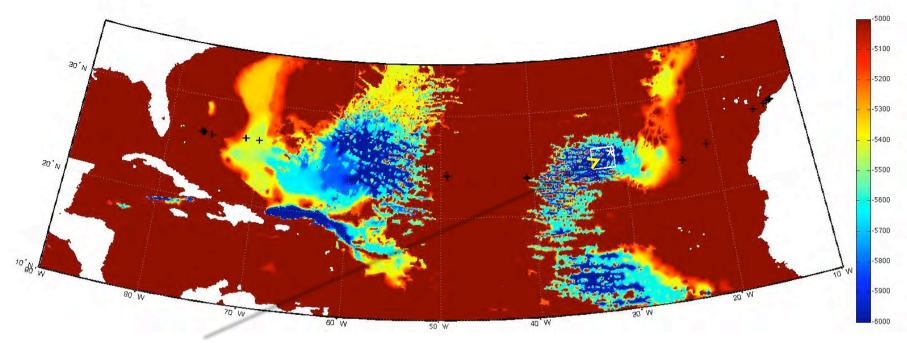
Cruise plans

 Deploy / recover mooring on autumn 2011 & 2012 RAPID eastern boundary cruises 26°N

- Test drifters
 - Tethered mode
 - Autumn 2011
- Deploy drifters
 - STRASSE cruise
 - Summer 2012
 - also glider

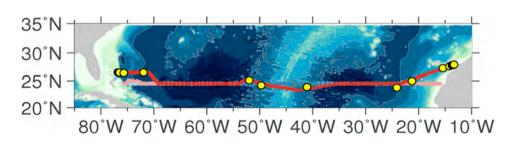




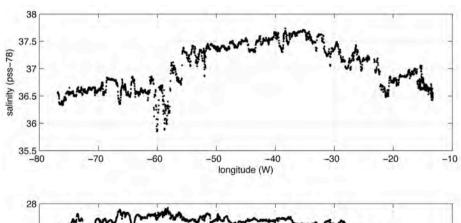


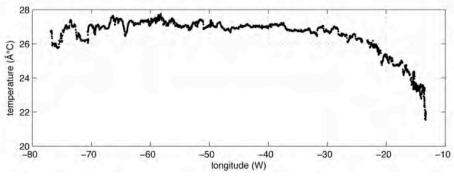
Proposed mooring location

26°N section Jan/Feb 2010









Expected UK contribution to SPURS

- Salinity advection estimates from 1-year mooring deployment
- Near surface salinity structure from drifter deployments (perhaps a few months of data)
- Assessment of spatial variability of salinity structure – cruise deployment of glider;
 SMOS (+Aquarius) observations of SSS
- Contribution to analysis and synthesis of SPURS observations